

REMARKS

Claims 1, 3-8, 15 and 16 are currently pending. Applicants note with appreciation the indication in the Advisory Action of December 22, 2004 that claims 4, 15 and 16 have been allowed. Applicants respectfully submit that claims 1, 3 and 5-8 are also in allowable form. Claim 1 has been amended to recite that the perpendicular orientation promoting underlayer promotes the perpendicular orientation of the perpendicular magnetic recording layer, if the Examiner's previous position was based on the use of the phrase "for promoting" as invoking functional language.

As a minor administrative matter, Applicants note that a Third Information Disclosure Statement was filed on January 21, 2005. This statement erroneously indicated it was filed before the close of prosecution. The undersigned apologizes for the oversight. However, Applicants respectfully request that the Examiner acknowledge consideration of the information disclosed in the Information Disclosure Statement, in light of the filing of the RCE.

The final Office Action included a rejection of claims 1-3 and 5, 6 and 8 under 35 U.S.C. §102(b) as allegedly being anticipated by the *Tang et al.* patent (U.S. Patent No. 5,750,270); and a rejection of claim 7 under 35 U.S.C. §103(a) as allegedly being unpatentable over the *Tang et al.* patent in view of the *Haratani et al.* patent (U.S. Patent No. 6,420,058). These rejections are respectfully traversed.

In characterizing the *Tang et al.* patent, the Office suggests that it discloses a magnetic recording medium having a "perpendicular orientation promoting layer" which is identified as the NiFe "keeper" layer. Applicants respectfully disagreed with this characterization of the NiFe keeper layer. As discloses at various locations and

in particular at column 9, lines 9-21, the *Tang et al.* patent describes the keeper layer as a soft magnetic material. Candidate soft magnetic materials are listed at column 9. The Office suggested this keeper layer is "capable of functioning in the claim capacity" of promoting perpendicular orientation in the perpendicular recording layer. In the Advisory Action of January 22, 2005, the Office expanded its position by stating that it believes that the soft magnetic layer is capable of functioning in the claim capacity "because it has a microstructure (crystalline or amorphous) that necessarily effects the crystalline growth of all overlying layers." The Office further expanded its explanation in the Advisory Action of February 28, 2005, in stating that "one can draw the conclusion that the soft magnetic layer indirectly affects the orientation of the magnetic layer."

Applicants respectfully disagree with this characterization of the *Tang et al.* device. The inventor, Byung Kyu Lee, submits herewith a Declaration that indicates the factual basis for the position taken by the Office is not appropriate. As can be seen from the Declaration, Mr. Lee has a Masters Degree in magnetic materials from a reputable university. He has been working in the field of magnetic recording mediums for fourteen years. While the Declaration speaks for itself, Applicants wish to highlight that in making his points regarding the atomic spacing of the various layers, he states in paragraph 5f that "[t]he Pd underlayer according to the *Tang et al.* patent crystallographically has a perpendicular orientation promoting property, while the soft magnetic layer composed of NiFe, etc. does not serve as a perpendicular orientation promoting underlayer in the embodiments disclosed in the *Tang et al.* patent." This is because the lattice mismatch between the soft magnetic layer and the CoCr recording layer is as much as 30 percent, which is simply too

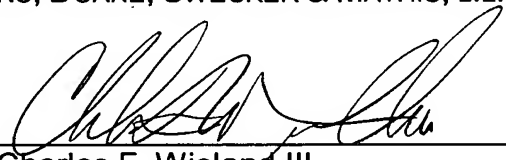
large for there to be an influence in the perpendicular orientation of the recording layer by the soft magnetic material. As he states in paragraph 5A, "crystal orientation promotion by the soft magnetic layer composed of NiFe, as in the *Tang et al.* patent, would be trivial even if in direct contact with the Co based recoding layer and would be virtually non-existent in the specific NiFe/Pd/Co or CoCr structure of the *Tang et al.* patent." This is because an amorphous layer is formed at the boundary between the soft magnetic layer and the nucleating layer in the *Tang et al.* patent as also stated in paragraph 5A.

In light of the inventor's Declaration, Applicants respectfully submit that a *prima facie* case of obviousness has not been established. Accordingly, reconsideration and allowance of the above-captioned application, including all the pending claims, claims 1, 3-8, 15 and 6, is respectfully requested. Should any residual issues exist, the Examiner is invited to contact the undersigned at the number listed below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: March 22, 2005

By: 
Charles F. Wieland III
Registration No. 33,096

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620